

DEVICE FOR ASSESSING PERFUSION FAILURE IN A PATIENT
BY MEASUREMENT OF BLOOD FLOW

ABSTRACT

A device is provided for assessing impairment of blood circulation in a patient, such as that in perfusion failure, by measurement of blood flow adjacent a mucosal surface accessible by a mouth or nose and connecting with the gastrointestinal tract or upper respiratory/digestive tract of a patient. The device includes a blood-flow sensor adapted to be positioned adjacent a mucosal surface with a patient's body and measuring blood flow in adjacent tissue and a PCO_2 sensor adapted to be positioned adjacent the mucosal surface and measuring PCO_2 . In addition a pH sensor may be used in combination with the blood flow determination. A method of detecting perfusion failure is also disclosed. The method includes utilizing blood-flow measurements in conjunction with a surface perfusion pressure index and/or an optical plethysmography index to more accurately assess perfusion failure. These measurements may also be supplement by taking measurements of pH, sublingual PCO_2 , and Sa O_2 . The invention affords rapid measurement and detection of perfusion failure.